UNITED STATES PATENT AND TRADEMARK OFFICE

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10/669,649	09/25/2003	Yoshikazu Kobayashi	Q77615	5582

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

		Application No.	Applicant(s)
Office Action Summary		10/669,649	KOBAYASHI, YOSHIKAZU
		Examiner	Art Unit	
		Nittaya Juntima	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 September 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-17</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>14-17</u> is/are allowed.

6)☒ Claim(s) <u>1-11 and 13</u> is/are rejected.

7)☒ Claim(s) <u>12</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 September 2003</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-SB/08)
    Paper No(s)/Mail Date <u>9/25/03, 8/10/04, 6/29/05, 1/4/06</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____ .

DETAILED ACTION

Drawings

1.   The drawings are objected to because:

- in Figs. 2, 4, 5, and 6, in element 24, "INPUT" should be changed to "OUTPUT," see page 19, lines 23-24 of the specification.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2.   The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed.

3.   The disclosure is objected to because of the following informalities:

-     on page, 1, line 18, literature 1 is not defined;

-     on page 22, line 22, "informs" should be changed to "transmits";

-     on page 23, line 2, "inform" should be changed to "transmit";

-     on page 24, line 26, "27" should be changed to "28";

-     on page 26, line 12, "29" should be changed to "219."

Appropriate correction is required.

Claim Objections

4.   Claims 1, 3, 4, 10, 12, and 14 are objected to because of the following informalities:

-     in claim 1, line 10, "transmitting" should be changed to "receiving";

              line 14, "the" should be changed to "a";

-     in claim 3, line 3, "the" should be changed to "a";

-     in claim 4, lines 8-9, "a time interval corresponding to" should be removed;

              line 15, "the pertinent" should be changed to "a pertinent";

-     in claim 10, line 4, "plurality of" should be changed to "plural" in order to be

consistent with line 12 of claim 7 and page 19, lines 8-15 of the specification;

-     in claim 12, line 8, "informing" should be changed to "transmitting";

-     in claim 14, line 44, "CEDEC" should be changed to "CODEC";

              line 48, "informing" should be changed to "transmitting";

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

Claims 1-6 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

5.   In claims 1-6, the claims are generally narrative and indefinite, failing to conform with

current U.S. practice. They appear to be a literal translation into English from a foreign

document and are replete with indefiniteness:

        - in claims 1-3, a transitional word or phrase "comprising" between the preamble and the

claim body is missing, therefore, it is unclear where the claim body begin; the claims are treated

as their corresponding claim body begins after "method," in each claim;

        - in claims 1-3, positive steps are missing in the method claims;

        - in claims 4-6, the structure which goes to make up the device is not clearly and

positively specified; the structure must be organized and correlated in such a manner as to

present a complete operative device.

6.   In claim 13, in a simultaneous reception packet number setting part of the receiving

                side

system, it is unclear what how the degree of failure of meeting the transmitted CODEC data

packet number by the actually received CODEC data packets affects/triggers the issuing of a

command for reducing the number of CODEC data packets to be multiplexed. What

condition/degree of such a failure would trigger the reducing command to be issued?

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

8.   Claims 1 and 3-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Borella

(US 6,434,606 B1).

Regarding claim 1, Borella teaches a network communication method, comprising:

Forming and sending out multiplexed CODEC data packets by a transmitting side system

(calling device 570, A/D 582, and sender 502 in Fig. 1 collectively constitute a transmitting side

system) when sending out data packets representing data as the subject of transmission (a

plurality of data packets 592 are formed and sent out over network 535 to the receiver 510, col.

6, lines 66-col. 7, lines 2, see also col. 6, lines 17-25).

Wherein each of the multiplexed CODEC data packets (each of data packets 592, Fig. 2)

includes a data packet representing data in one time section (frame 585 containing payload for

frame n, Fig. 3) and a correction code representing a correction code of a predetermined data

packet in a time section retroactive to said time section by a time interval corresponding to a

predetermined frame number (frame 585 containing payload for frame n-1, Fig. 3). See col. 7,

lines 2-8, 18-57.

Borella does not explicitly teach that the network 535,Fig. 1 is a LAN.

However, Borella teaches that transport network could be a LAN (col. 2, lines 21-29).

Therefore, it would have been obvious to one skilled in the art at the time of the invention

to modify the teaching of Borella to include a LAN as claimed. The suggestion/motivation to do

so would have been to utilize a LAN to transport real time communication between two parties

as taught by Borella (col. 2, lines 3-11, 21-29).

Claim 3 contains method steps performed in a receiving side system as recited in method

claim 1, and is therefore rejected under the same reason set forth in the rejection of claim 1.

Regarding claim 4, Borella teaches a network communication system (Fig. 1),

comprising:

A transmitting side system (calling device 570, A/D 582, and sender 502 in Fig. 1

collectively constitute a transmitting side system) for forming and sending out multiplexed

CODEC data packets (data packets 592, Fig. 2) each including a data packet representing data in

one time section (frame 585 containing payload for frame n, Fig. 3) and a correction code

representing a correction code of a predetermined data packet in a time section retroactive to said

one time section by a time interval corresponding to a frame number (frame 585 containing

payload for frame n-1, Fig. 3) when sending out data packets representing data as the subject of

transmission to a network (network 535, Fig. 1, col. 2, lines 3-13 and col. 8, lines 63-67). See

col. 6, lines 66-col. 7, lines 2-8, 18-57; see also col. 6, lines 17-25).

A receiving side system (receiver 510, D/A 570, and listening device 522 in Fig. 1

collectively constitute a receiving side system) for reconstructing data as the subject of

transmission on the basis of a correction code in a pertinent CODEC data packet without waiting

re-transmission of any CODEC data packet in an event that data packet has occurred when the

multiplexed CODEC data packets are received (receiver 510 uses extra copy of frame n-1 in case

packet n-1 was lost during transmission over network 535, col. 7, lines 50-57 and col. 9, lines 37-

45).

Borella does not explicitly teach that the network 535,Fig. 1 is a LAN.

However, Borella teaches that the network could be a LAN (col. 2, lines 21-29).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to

modify the teaching of Borella to include a LAN as claimed. The suggestion/motivation to do so

would have been to utilize a LAN to transport real time communication between two parties as

taught by Borella (col. 2, lines 3-11, 21-29).

Claim 5 contains a transmitting side system as recited in system claim 4, and is therefore

rejected under the same reason set forth in the rejection of claim 4.

Claim 6 contains a receiving side system as recited in system claim 4, and is therefore

rejected under the same reason set forth in the rejection of claim 4.

Regarding claim 7, as shown in Fig. 1, Borella teaches a network communication system

comprising:

A transmitting side system (calling device 570, A/D 582, and sender 502 in Fig. 1

collectively constitute a transmitting side system) including:

A voice signal input part (calling device 570 and A/D 582) for inputting data to be

sent out to network (network 535) (col. 5, lines 48-57).

A transmitting side CODEC part (encoder 580) for converting signal representing

the data inputted from the voice signal input part to digital codes (col. 5, lines 58-64 and col. 6,

lines 17-30).

A transmission buffer part (packetizer 590) including a data buffer part (a data

buffer part must be included in the packetizer 590 for storing redundant frames, e.g., frames n-1,

n-2 in Fig. 3, for each packet 592) for temporarily storing CODEC data packets of the digital

codes generated in the transmission side CODEC part until codes the CODEC data packet is sent

out to the network and a plural CODEC data multiplexing part (a plural CODEC data

multiplexing part must be included in the packetizer 590 for packetizing frames 585 into a

plurality of packets 592) for multiplexing a predetermined plurality of CODEC data packets to

form transmission data. See Figs. 2-3, and col. 6, lines 66-col. 7, lines 57.

A transmitting part (output port of sender 502 connected to network 535 for

transmitting a data packet sequence 508) for receiving the multiplexed transmission data from

the transmission buffer and sending out the received transmission data to the network (col. 6,

lines 66-col. 7, lines 2).

A receiving side system (receiver 510, D/A 570, and listening device 522 in Fig. 1

collectively constitute a receiving side system) including:

A receiving part (input port of receiver 510 for receiving data sequence 511 from network 535) for receiving the transmission data from the network (col. 9, lines 34-36).

A reception buffer part (buffer management 512 and a buffer array 514, collectively) including a plural CODEC packet decoding part (buffer management 512) for developing the multiplexed transmission data received in the receiving part and rearranging the developed data to a continuous data train (col. 9, lines 35-45) and a jitter data buffer part (a buffer array 514) for temporarily storing data from the plural CODEC packet decoding part (col. 11, lines 33-40).

A receiving side CODEC part (decoder 518) for receiving and decoding the digital data from the reception buffer part (col. 11, lines 64-col. 12, lines 10).

An output part (D/A 570 and listenting device 522) for reconstructing and outputting data reconstructed in the receiving side CODEC part (col. 9, lines 34-38, and claims 1 and 6).

Borella does not explicitly teach that the network 535,Fig. 1 is a LAN.

However, Borella teaches that the network could be a LAN (col. 2, lines 21-29).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify the teaching of Borella to include a LAN as claimed. The suggestion/motivation to do so would have been to utilize a LAN to transport real time communication between two parties as taught by Borella (col. 2, lines 3-11, 21-29).

Claim 8 contains a transmitting side system as recited in system claim 7, and is therefore rejected under the same reason set forth in the rejection of claim 7.

Claim 9 contains a receiving side system as recited in system claim 7, and is therefore

rejected under the same reason set forth in the rejection of claim 7.

Regarding claims 10 and 11, it is inherent that a simultaneous transmission packet

number setting part for setting the number of CODEC data packets (frames 585) to be

multiplexed in the plural CODEC multiplexing part (packetizer 590, Fig. 1) since the redundancy

bits are used to indicate the number of frames 585 in the frame field 592c of the data packet 592

packetized by packetizer 590 (Figs. 2-3, col. 6, lines 66-col. 7, lines 6, 18-33, 37-57).

9.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Borella (US

6,434,606 B1) in view of an art of record, "Overview of Voice over IP" by Udani et al

(hereinafter "AOR").

Claim 2 contains method steps performed in a transmitting side system as recited in

method claim 1, and is therefore rejected under the same reason set forth in the rejection of claim

1 with an exception that Borella does not teach that network 535, Fig. 1 is a wireless LAN.

However, AOR teaches implementing a VoIP in wireless LAN (Wireless Networks

section on page 20-page 21, lines 2).

Therefore, it would have been obvious to one skilled in the art to modify the teaching of

Borella to include wireless LAN as a transport network between the transmitting and receiving

systems. The suggestion/motivation to do so would have been to take advantage of many

benefits of utilizing wireless LAN including mobility, powerful wireline network throughput, and configuration flexibility as suggested by AOR (page 20, last paragraph-page 21, lines 2).

Allowable Subject Matter

10.   Claims 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11.   Claim 13 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

12.   Claims 14-17 are allowed. The prior art alone or in combination fail to teach or make obvious on the following when considered in combination with other limitations in the claim:

a simultaneous transmission packet number setting part for setting the number of CODEC packets to be multiplexed in response to a request command from the receiving side system and a CODEC packet non-arrival factor computing part for computing the non-arrival factor of CODEC packet number as the ratio of the number of data packets processed as data non-arrival to the total transmitted data packet number, transmitting, when the non-arrival factor exceeds a predetermined reference value, a request for increasing the simultaneous transmission packet number to the simultaneous transmission number setting part in the transmitting system, and issuing a packet conversion timing time interval setting request for causing the transmitting side CODEC part to set the CODEC data packet conversion time interval according to the non-arrival factor.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

- US 7,039,716 B1, disclosing device and method for encoding voice data for

redundant transmission through VoIP network (Abstract, Figs. 1A-3B, col. 2, lines 47-col. 4,

lines 57, col. 6, lines 3-7, 20-63, col. 7, lines 3-25).

- US 2004/0215812 A1, disclosing packet-drop tolerant method for transmission time-

critical data over Ethernet (Abstract, Fig. 9, paragraphs 30-35).

- US 6,438,105 B1, disclosing reliable transmission method using a dynamic redundant

window (Abstract, Fig. 6, col. 8, lines 22-66)

- US 7,042,833 B1, disclosing transmission method over packet networks using

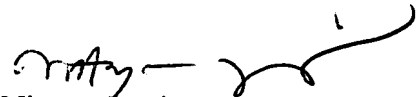redundant data (Abstract, Figs 6-7, col. 7, lines 11-60).

14.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nittaya Juntima whose telephone number is 571-272-3120. The

examiner can normally be reached on Monday through Friday, 8:00 A.M - 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nittaya Juntima
Patent Examiner
May 11, 2007